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EXPLORING OCCUPATIONAL OPPORTUNITIES IN ORNAMENTAL HORTICULTURE. HORTICULTURE-SERVICE OCCUPATIONS, MODULE NO. 1.
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THE MAJOR OBJECTIVE OF THIS MODULE IS TO DEVELOP STUDENT UNDERSTANDING OF OCCUPATIONAL OPPORTUNITIES AVAILABLE IN ORNAMENTAL HORTICULTURE. IT IS ONE OF A SERIES DESIGNED TO PREPARE HIGH SCHOOL STUDENTS FOR HORTICULTURE SERVICE OCCUPATIONS. IT WAS DEVELOPED BY A NATIONAL TASK FORCE ON THE BASIS OF RESEARCH FROM STATE STUDIES. SUGGESTIONS FOR INTRODUCING THE MODULE ARE GIVEN. SUBJECT MATTER AREAS ARE ORNAMENTAL HORTICULTURE ENTERPRISE AND JOB IDENTIFICATION, LOCAL ORNAMENTAL HORTICULTURE BUSINESSES, AND AVAILABLE NATIONAL EMPLOYMENT OPPORTUNITIES. SUGGESTED SUBJECT MATTER CONTENT, TEACHING-LEARNING ACTIVITIES, INSTRUCTIONAL MATERIALS AND REFERENCES, AND MEANS FOR EVALUATION ARE INCLUDED. SUGGESTED TIME ALLOTMENT IS 11 HOURS OF CLASS INSTRUCTION AND 4 HOURS OF LABORATORY EXPERIENCE. A TEACHER WITH A BACKGROUND IN ORNAMENTAL HORTICULTURE MAY USE THIS MATERIAL TO FLAN FOR LESS ABLE HIGH SCHOOL STUDENTS WITH AN OCCUPATIONAL GOAL IN ORNAMENTAL HORTICULTURE SERVICE OCCUPATIONS. THIS DOCUMENT IS AVAILABLE FOR A LIMITED PERIOD AS PART OF A SET (VT 000 619 - 000 631) FOR $7.25 FROM THE CENTER FOR VOCATIONAL AND TECHNICAL EDUCATION, THE OHIO STATE UNIVERSITY, 980 KINNEAR ROAD, COLUMBUS, OHIO 43212. (JM)

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EXPLORING OCCUPATIONAL OPPORTUNITIES IN ORNAMENTAL HORTICULTURE

One of Twelve Modules in the Course Preparing for Entry in

HORTICULTURE - SERVICE OCCUPATIONS

Module No. 1

The Center for Research and Leadership Development

in Vocational and Technical Education

The Ohio State University
980 Kinnear Road
Columbus, Ohio, 43212

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Occupational Focus Service workers at nurseries, garden centers, greenhouses, etc.
Geographic Adaptability Nationwide
Uses of Material Instructor course planning
Users of Material Teachers

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Desirable
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Describe Suggested references given in module. (P)

Source (agency)
(address)

EXPLORING OCCUPATIONAL OPPORTUNITIES IN ORNAMENTAL HORTICULTURE

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EXPLORING OCCUPATIONAL OPPORTUNITIES IN ORNAMENTAL HORTICULTURE

(It is suggested that occupational opportunities be stressed throughout the course as the occasions arise rather than restricting all occupational instruction to this module as such.)

Major Teaching Objective

To enable the students to thoroughly understand the occupational opportunities available in ornamental horticulture

Suggested Time Allotments

At school		
Class instruction	11	hours
Laboratory experience	4	hours
Total at school	15	hours
Occupational experience	0	hours
Total for module	15	hours

Suggestions for Introducing the Module

For many teenagers the desire to earn money is a powerful drive. They are receptive to dealing with job opportunities where they can earn money for operating their cars, for dating, and for becoming more independent of their parents. This material should be approached with these factors in mind.

Instruction pertaining to occupational opportunities must be taken beyond the immediate community, as our labor force has tremendous mobility today. Insofar as this is the case, it is important to deal with the material of this module with the idea in mind that the students may be taking jobs some distance from where the training was received.

Ornamental horticulture is important in two ways:

1. It is the source of livelihood for many owners, operators, and employees.

2. It is the source of beauty for our homes, our communities, and our nation.

Interesting students in horticulture may hinge upon stressing job opportunities. Quite early in the course the students should be convinced that there are jobs available if they can secure the necessary training. This should help the teacher considerably with the problem of student motivation. Other students may be motivated from the standpoint of being able to render a valuable service to others by keeping our landscapes beautiful.

This is just one example of how to introduce the module to the students. "You know there are thousands of different kinds of jobs which people can have. There are truck drivers, bakers, plumbers, electricians, dentists, carpenters, and clerks. We have jobs so that we can obtain the things needed to live. Have you given any thought to what kind of job you want some day? Since you have enrolled in horticulture, do you know what kinds of jobs are available in this area? Are you real sure about what horticulture is? What things do we need to consider in selecting jobs? Perhaps it might be well for us to take the next few days and give some consideration to the matter of jobs in ornamental horticulture. We will be doing this by looking at some 2 x 2 colored slides, working with maps, hearing from guest speakers, taking a field trip, and erecting a hall display so that the rest of the school can learn something about ornamental horticulture, too."

Competencies to be Developed

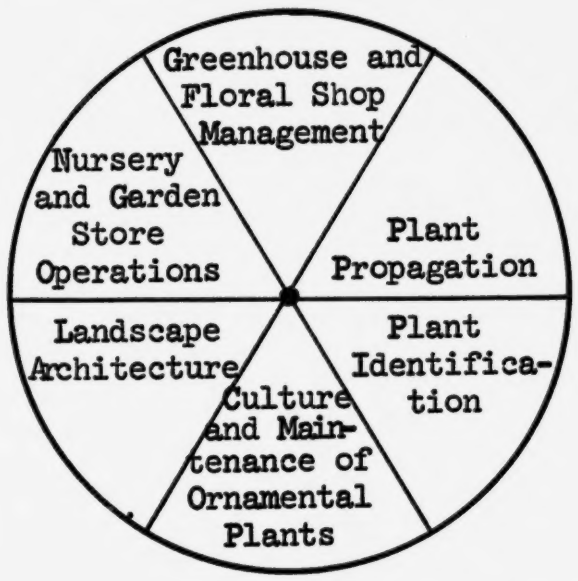
I. To identify the different types of enterprises and jobs included in ornamental horticulture

Teacher Preparation

Subject Matter Content

What is ornamental horticulture? Ornamental horticulture (and floriculture) is the art, science, and business involved in the commercial production, marketing, and use of florist crops, garden flowers, evergreen and deciduous shrubs, and trees.

Instructional areas in ornamental horticulture may be divided as follows:



Occupational Opportunities at the Various Levels of Employment in Ornamental Horticulture are listed below:

Note: All occupational titles below, including the production titles, are primarily for teacher background, and are not intended to be a part of the content for students except as a means of illustrating possible ladders of advancement for qualified people.

Field of Activity	Occupational Category and Specific Job Titles
Professional	Landscape architect Horticulturist Floriculturist Ornamental horticulturist
Technical	Landscape consultant Ornamental horticultural pest control specialist Ornamental horticultural plant disease specialist Floral designer
Managerial	Ornamental horticultural manager Golf course superintendent Park superintendent Florist Assistant manager Branch manager Departmental manager Sales manager Nursery manager Greenhouse manager Garden center manager
Clerical	Office supervisor Secretary Bookkeeper Office clerk

Production	Greenhouse grower
	Head grower
	Nursery grower
	Foreman
	Propagator
	Assistant greenhouse grower
	Greenhouse worker
	Bedder
	Assistant nursery grower
Sales	Sales supervisor
	Head salesman
	Ornamental horticultural salesman
	Florist salesman
	Nursery salesman
	Garden center salesman
	Sales clerk
Service	Arborist
	Tree surgeon
	Tree pruner
	Landscaper
	Landscape gardener
	Groundskeeper
	Maintenance foreman-gardener
	Greenskeeper
	Turf manager
	Assistant groundskeeper
	Maintenance man
	Lawn keeper
	Tree sprayer
	Park laborer
	Assistant greenskeeper
	Greensman
	Deliveryman
	Truck driver
	Garden center worker

Approximate Value of Ornamental Horticulture Products in the United States, By Type of Product, and By Region*

Region	Nursery Products (trees, shrubs, vines, ornamentals, etc.) Value of Sales (dollars)	Cut flowers, potted plants, florist greens, and bedding plants grown for sale Value of Sales (dollars)
United States	$198,820,538	$329,648,234
Northeastern States	9,374,449	26,866,349
Middle Atlantic States	32,409,886	66,665,480
East North Central States	29,955,611	73,596,162
West North Central States	13,359,373	22,253,424
South Atlantic States	33,746,235	51,050,224
East South Central States	14,599,433	8,943,628
West South Central States	16,403,458	11,623,647
Mountain States	5,870,750	11,622,758
Pacific States	43,101,343	57,026,562
Conterminous Area	43,008,736	55,004,202

*Source: 1959 Census of Agriculture, Volume II, General Report, Page 948

Factors One Should Consider in Selecting a Job

1. What is the nature of the work? What kind of jobs will I be expected to do?
2. How important is the job?
3. Does the occupation require chiefly mental or physical effort? Will my health allow me to do this work?
4. Is the work inside, or outside, or both?
5. What are the working conditions? With whom will I be working?
6. What personal qualifications are required for entry into the occupation?
7. What are the educational and training requirements for the job?
8. How do I get a job?
9. Is there opportunity for doing a variety of jobs?
10. Will the work require considerable travel and time away from home?
11. How much money can one expect?
12. Are any fringe benefits provided by the business?
13. Is there a great deal of risk involved in performing the job?
14. What security and benefits are offered in the occupation?
15. Are there opportunities for advancement and self-betterment?
16. What is the long range employment outlook?
17. Is the employment on a regular or seasonal basis?

18. Does one work regular hours? Eight, ten, or twelve hour day? Day or night shift?

19. Can a person live in one place or must one make frequent moves?

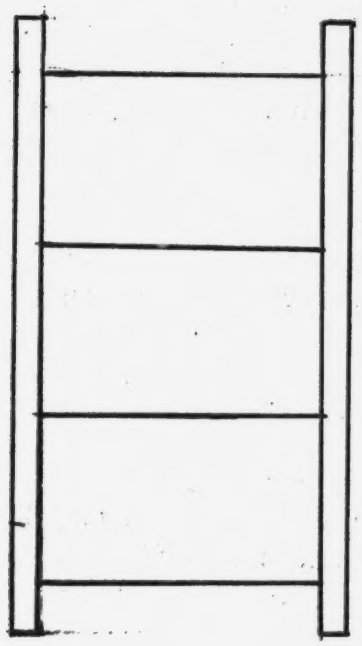
20. Will the job necessitate getting along well with others or will one work pretty much alone?

21. How much personal expense is involved in clothing, transportation, and meals?

22. Will I enjoy the type of work which I am called upon to do?

Advancement on the Job

Point out to the students that a "ladder" of advancement exists. Show that one needs to start at the bottom but that not all can reach the top. Point out that there is a place for everyone as long as work in that occupation is honest, meaningful to himself, and worthwhile to others. Emphasize that every job taken by an individual is essential, whether he is responsible only to himself or whether he is one of many "cogs" in the machinery. Each person, like each cog, is needed to make the machine operate.


Manager or Owner
Assistant Manager
Foreman or Supervisor
Entry Occupation such as greenhouse keeper or groundskeeper

Ladder of Advancement

The following descriptions of employees' jobs were taken from the Handbook of Agricultural Occupations, pp. 198-212, and are representative of the type of job a graduate of this course would probably enter.

Job Title - Greenhouse Employee

Job Description

A greenhouse employee grows plants in an artificially heated glass or plastic greenhouse. The plants grown may be vegetables or flowers, and the work may include the propagation of trees or ornamental shrubs from seeds or cuttings. Greenhouse specialties include producing out-of-season vegetables such as tomatoes, cucumbers, or leaf lettuce, producing cut flowers or pot plants, growing bedding plants for sale, or starting plants for outdoor nursery beds. In many cases a greenhouse is a part of a nursery operation. In such cases, a worker may be performing the duties of a nursery employee as well as those of a greenhouse worker. An employee in the greenhouse screens, mixes, sterilizes soil, and places it in growing containers. He sows seeds, starts cuttings, and transplants seedlings and plants. He waters, weeds, thins, prunes, and sprays growing plants. He maintains the greenhouse structure and equipment.

Working Conditions

Most of the work of a greenhouse employee is performed indoors, and jobs done outdoors usually are accomplished during favorable weather. His work requires considerable walking, stooping, and bending over plant or seedbeds, and his hands and clothes are usually stained from soil and plant sap or juices.

His work is largely manual labor but is not unusually hard. Working hours are mostly regular and employment is steady throughout the year. Seasonal demands sometimes necessitates working extra hours.

Personal and Educational Qualifications

For an employee to really enjoy greenhouse work, he must be interested in seeing plants grow. Good health is important but certain types of physical disabilities will not prevent a boy who is interested from entering the occupation.

A high school education with a course in vocational agriculture or horticulture is desirable for one interested in this occupation.

Job Title - Nursery Employee

Job Description

A nursery employee grows seedlings and plants for landscaping, fruit production, and forest replanting. He may work in one of several kinds of nurseries. Some nurseries specialize in producing fruit trees and small fruit transplants, some in ornamental trees and shrubs, and some in forest replanting materials. Some nurserymen operate greenhouses and produce their own seedlings and plants from cuttings. Some produce planting stock of two or more major lines of plants, trees, or shrubs.

A nursery employee prepares seedbeds, plants seedlings, prepares cuttings for rooting, weeds, cultivates, waters, prunes and performs other cultural practices such as spraying and grafting. He digs, grades, and packs plants for shipment. He may cut, lift, and lay sod. He transplants shrubs and trees, and in a tree nursery, gathers and processes forest tree seeds. He helps with the maintenance and repair of buildings and equipment.

Working Conditions

A great deal of the nursery worker's time is spent outdoors. If a greenhouse is a major part of the employer's business, an employee will spend a lot of time in the greenhouse. Actual planting, cultivating, and other cultural practices must be done under favorable weather conditions, but considerable outdoor work at a nursery can be done in rather adverse weather.

The work is largely manual labor and some of it is accomplished by heavy lifting. Working hours are regular and employment may be for the entire year, depending upon the workers' qualifications.

Personal and Educational Qualifications

To be a nursery employee, one should enjoy working with plants and being in the out-of-doors. Good health and physique are important and physical handicaps are likely to hinder one in this work. A truck driver's license may be required. The ability to identify plants and a knowledge of how plants are used in the landscape are quite desirable. A high school education with a course in agriculture or horticulture is desirable.

Job Title - Garden Center Employee

Job Description

A garden center employee performs many jobs including caring for ornamental plants, moving plants and supplies into selling areas, arranging plants and supplies for display purposes, and selling the various products handled by the garden center. A garden

center may be a part of a large retail store, a part of a nursery or greenhouse operation, or a retail establishment separate from any other business.

The work of a garden center employee includes cleaning, stocking, and arranging garden supplies on shelves, counters, and in windows. He cares for ornamental plants by watering, trimming, spraying, and controlling temperatures. The employee unloads and unpacks supplies as they arrive from wholesalers, loads orders on trucks, makes deliveries, and loads orders into customers' cars. He gives information to customers on care of plants, care of lawns, plant varieties, and merits of different garden supplies and equipment.

Working Conditions

Garden centers are built and arranged to attract customers; as a result, a garden center employee usually works in a rather clean, pleasant, and comfortable environment. Some of the work area is usually heated in cold weather. Other areas are unheated but are usually protected from rain, snow, and wind. Some of the work may be outdoors particularly during the season that ornamental shrubs and trees are for sale. The work is fairly regular, but has seasonal peaks. Some garden centers close or operate with only a skeleton crew during the winter months.

Personal and Educational Qualifications

A garden center employee should enjoy meeting people, be interested in giving good service to customers, and like caring for ornamental plants. He must be able to engage in conversation easily and in a friendly manner to be a successful salesman.

A high school education with a course in vocational agriculture or horticulture is desirable.

Job Title - Garden Center Employee

Job Description

A grounds maintenance employee cares for the area surrounding an industry or business, church, school, airport, apartment building, private estate, cemetery, or shopping center. The employee plants and cares for lawns and ornamental plants. The work involves mowing grass, reseeding areas, controlling weeds, and planting and spraying ornamental plants. He rakes and disposes of leaves and other refuse. Year round employment is provided through maintenance and repair of walks, drives, and equipment. The work may involve making minor repairs to buildings and providing for snow removal.

Working Conditions

The work of the grounds maintenance employee is outdoors and deals mostly with ornamental plant materials. There is a variety in the work. Most of the work is manual labor, but is not considered as being hard labor. The environment in which the employee works is usually quite desirable, although certain jobs must be done under a variety of weather conditions. Employment is steady, and the employee works regular hours, but there are some peaks in the work load.

Personal and Educational Qualifications

An employee in this kind of work should not mind working alone and should enjoy working with plants, tools, and small garden equipment. Insofar as most jobs are done outdoors, good health is an asset.

Job Title - Golf Course Employee

Job Description

A golf course employee's work involves the overall maintenance of a golf course. He cares for the turf on both the greens and fairways. He installs and uses irrigation and drainage equipment, cleans and maintains sand traps, changes the location of the cups, and aerates the soil. He may do some pruning of shrubs and trees, replace the sod as needed, and repair equipment and buildings.

Working Conditions

The work is mostly outdoors and most of it is performed during fairly good weather. The work day is usually eight hours. In the southern part of the United States, employment is steady throughout the year. In sections of the country having cold winters, employment is from March or April through October or November.

Personal and Educational Qualifications

Because a great deal of walking is involved in golf course maintenance, a worker should have reasonably good health, but certain physical handicaps will not interfere with one's success. The employee should enjoy working outdoors, have a pleasing personality and be tolerant with others.

A high school education with a course in agriculture-horticulture is desirable.

Job Title - City, State, or National Park Employee

Job Description

A park employee performs the work necessary for proper maintenance of park facilities including trees, shrubs, flowers, and lawns that make up the planting area. The city park worker will be dealing more with formal flower beds and lawn areas, while the state or national park worker will deal more with care and maintenance of natural woodlands or forest.

The work of the park employee includes mowing grass, trimming the edges of walks and driveways; planting, pruning, and caring for trees, shrubs, hedges, lawns, and flower beds; controlling insects, diseases, and weeds; and caring for the soil. The work includes such jobs as removing trash or snow, maintenance of swimming pools, care of boating facilities, general maintenance of buildings and equipment, and repair of roadways and drives.

Working Conditions

The work of a park employee is outdoors most of the time. Most of it is not hard manual labor, and it is performed in a healthy, pleasant environment. Sometimes park improvement jobs have to be done under unfavorable weather conditions. This occupation usually provides steady employment throughout the year, and working hours are regular. In certain types of state park work, peak periods may occur.

Personal and Educational Qualifications

One interested in becoming a park employee should appreciate nature, enjoy working outdoors; and like working with plants. It is desirable to have an interest in landscape development, and a pride in the appearance of one's accomplishments. Good health is necessary because manual labor is a requirement of this work.

A high school education with a course in vocational agriculture-horticulture is most desirable for one interested in this type of work.

Job Profile Chart

Job	Regular Income?	Regular Hours?	Work Outdoors, Indoors?	Offers Variety in Work?	Great Deal of Travel Required?	Work in One Place?	Fringe Benefits?	Work with Others?	Desirable Educational Requirements
Green-house Worker	Yes	Generally, but some overtime is usually required	Indoors	Yes	No	Yes	Yes	Yes, to some extent	High school with a course in agriculture or horticulture
Nursery Worker	In many cases	Yes, but there are peak seasons	Mostly outdoors	Yes	No	Yes	Some	Yes	High school with a course in agriculture or horticulture
Garden Center Employee	Yes	Yes, but there are peak seasons	Both indoors and outdoors	Yes	No	Yes	Some	Yes	High school with a course in agriculture or horticulture
Golf course Employee	No	Yes, during the golfing season	Outdoors	Yes	No	Yes	Not to any great extent	Yes	High school with a course in agriculture or horticulture
Assistant Grounds-keeper	Yes	Yes, some overtime will be required on occasion	Mostly outdoors	Yes	No	Yes	There may be some	Not neces-sarily	High school with a course in agriculture or horticulture
Parks Employee	Yes	Yes	Outdoors	Yes	No	Yes	Not to any great extent	Yes	High school with a course in agriculture or horticulture

May be assigned as homework. Teacher can then place chart on chalkboard using student responses.

Suggested Teaching - Learning Activities

1. Use a 2" x 2" colored slide series made up as suggested in the instructional materials section below to acquaint the students with the various types of jobs in ornamental horticulture. These could be made locally.

2. Call upon the students to react to the types of jobs indicated in the slides which appealed most to them.

3. Discuss the qualifications which are required for holding the various jobs indicated by the slides. Develop the table as found in the section on subject matter content.

4. Discuss the factors that one should consider in choosing a job. Orient the discussion to the type of students being served by the course.

5. Bring in a nurseryman, landscaper, greenskeeper, or maintenance supervisor to discuss job opportunities in the industry. Emphasis should be placed on the sales and service types of occupations.

6. Bring in a former student to discuss the importance of staying in school and preparing for a job.

7. Use a good color film to illustrate the importance of ornamental horticulture in the community. Check with the local agricultural extension office for film suggestions.

8. Take the class on a half-day field trip to a local nursery or garden center. Have the manager direct his remarks to a discussion of the nature of the business and the job opportunities available in ornamental horticulture. The remarks should be those which inform the students as to:

   a. The types of jobs which the employees are called upon to do

   b. The amount and type of education required to do the various jobs in the nursery

   c. The number of hours the employees work during the week

d. The amount of pay to be expected

e. The opportunities for advancement

f. The way in which employees are able to advance in the business

g. Personal qualities which employers look for in hiring workers

h. Ways to succeed on the job

9. Arrange to have employees in several of the different types of jobs available, talk to the class about what they do in their jobs, what are good and poor aspects of their jobs, and what they have found it necessary to do in order to be successful in their jobs. Sound out what a person thinks and is likely to say before he talks with the class.

Suggested Instructional Materials and References

Instructional materials

1. A 2" x 2" colored slide series should be developed and used showing such scenes as:

   Floriculture greenhouse - cut flower production
   Floriculture greenhouse - pot plant production
   Flower delivery truck from a wholesale flower firm
   Florist shop
   Floral designer at work
   Completed floral arrangement
   Garden center with the name clearly visible
   Activity at the garden center during the busy season
   Rows of plant materials in the garden center
   Sales personnel at the garden center with a customer
   Landscape at a factory or a commercial building
   Landscaper at work
   Worker cutting or laying sod
   Football or baseball infield
   Golf course green
   Mowing the fairway of a golf course
   Sign at the entrance to a metropolitan or state park
   Home lawn and landscape
   Tree pruner at work
   Nursery field

2. The above list could be expanded to twenty-five slides or more and each slide could suggest appropriate comments which would take most of the class period if the slides have succeeded in arousing student interest and questions.

3. The teacher should prepare a script to accompany the slides. The slides are the means of presenting the following points:

   a. Ornamental horticulture is composed of several areas.

   b. There are many different kinds of tasks required in maintaining landscapes.

   c. There are many different areas where maintenance employees are required. This means jobs.

   d. Much of the work is outdoors.

   e. Much of the work is seasonal. Stress that well qualified workers often have opportunity to remain with firms on a regular basis.

   f. Different types of training are required to do the various jobs.

   g. Work in ornamental horticulture deals with plants, soil, and structures.

References

1. Hoover, Handbook of Agricultural Occupations, p. 11 and pp. 189-192, 198-212.

2. Career Opportunities in Ornamental Horticulture, American Association of Nurserymen (a brochure).

3. Occupational Brief No. 166, Science Research Associates, Inc. (This brief deals with the Nursery-Landscaping Occupations).

4. Opportunities for You in the Florist Industry. A career information booklet prepared by American Society of Florists, Sheraton Park Hotel, Washington 8, D. C.

II. To become familiar with the specific ornamental horticulture businesses in the community

Teacher Preparation

Subject Matter Content

The predominant horticultural enterprises to be found in a given community depends chiefly upon the geography and economic conditions which prevail. A quick way of determining the particular kinds of horticultural enterprises in any given community is to consult the yellow pages of the local telephone directory. Examination of this publication would reveal the following types of horticultural businesses or facilities requiring workers with horticultural knowledge.

Garden Centers
Nurseries
Florist Shops
Golf Courses
City Parks
Vegetable Forcing Greenhouses
Floriculture Greenhouses
Cemeteries

Suggested Teaching-Learning Activities

1. Prepare and use a mimeographed student handout containing such questions as the following:

   a. Which seems to be the most common horticultural enterprise in the area? _____. Can you suggest reasons why this is so? _____
   _____
   _____

   b. Do you think that there would be business enough for more garden centers in the area? _____Why or why not? _____
   _____
   _____

   c. Which of the horticultural industries have the most possibilities for regular employment? _____
   _____Why is this so? _____
   _____

d. Do you feel that the area has enough recreational parks? _____ Do you feel that the parks are so located to serve the maximum number of people? _____ If not, where should another one be built? _____

_____

How can we afford to use land for parks? _____

_____

_____

e. In which of the businesses that we are studying would you most like to work? _____

Why? _____

_____

2. Group study

It seems that information concerning the horticultural enterprises of the community could be used to advantage in impressing beginners in the field of horticulture with the extent of the industry in a particular geographical area. Making this information known may do a great deal to arouse interest, and offer considerable encouragement from the standpoint of seeing possibilities for horticultural occupational opportunities.

Procedure

Divide the class up into four teams or committees. Suggested committee assignments are as follows:

Committee #1 - Florists
Committee #2 - Nurseries, garden centers, and golf courses
Committee #3 - Parks*, cemeteries, athletic fields, and stadiums (*not commercial but offering opportunities for employment.)
Committee #4 - Commercial vegetable and floriculture greenhouses

After the committees have been established, provide each group with a properly backed map of the county or city (obtained from the county of city engineer), a supply of map pins, and either a telephone directory or list obtained from other sources. Different colored map pins for the various phases of horticulture would be desirable.

Assuming four members to the committee, division of responsibility might be as follows: (The object is to give as many students jobs as possible.)

No. 1 member - Locates and marks points in the north and east portion of the map
No. 2 member - Locates and marks points in the south and west portion of the map
No. 3 member - Reads off locations to plotters
No. 4 member - Verifies plots and inserts map pins (it would be well for the teacher to convert street addresses of the firms into map coordinates rather than have the students attempt this.)

If other classes follow during the day the procedure can be the same, with the new group continuing the work of the previous group. The teacher will need to check the accuracy in all cases if the maps are to have future utilization.

Benefits of such an exercise

1. The students will become aware of the tremendous amount of commercial horticulture in this geographical area.
2. The students will be given opportunity to do some map reading. This should be of considerable value as extensive use of maps is made in our every day life. Employees making deliveries need to be able to read maps.
3. The teacher will have an excellent resource when the time comes for occupational placement of the students.
4. The maps will make excellent displays during school open houses and other special events.
5. The maps can be utilized in classroom instruction.
6. The teacher himself will be well informed as to the status of horticulture in the geographical area in which he is teaching.

<u>Suggested Instructional Materials</u>

Sources of information as to the number and types of horticultural business in the area are:

1. The county agricultural agent
2. Grower association secretaries
3. Individual owners, operators, or managers of the business concerns
4. Telephone directories

III. To understand the opportunities available for horticultural employment in different parts of the nation

Teacher Preparation

Subject Matter Content

The more important commercial horticultural areas of the nation are listed in Table 1 below. This table does not reflect the areas where the products, such as trees, shrubs, and potted plants, are used.

Table 1

Horticultural Product	Major Production Areas
Nursery Products (trees, shrubs, vines, bulbs, etc.)	California, Florida, New York, Texas, Pennsylvania, Ohio
Cut flowers, potted plants, florist greens, and bedding plants	California, Florida, New York, and Ohio
Citrus Fruits*	
Oranges	Florida, California, Texas, and Arizona
Grapefruit	Florida, Texas, Arizona, and California
Lemons	California and Arizona
Limes	Florida and California
Deciduous Fruits*	
Apple	Washington, New York, Virginia, California, Michigan, and Pennsylvania
Peaches	California, Michigan, South Carolina, Georgia and Pennsylvania
Pears	California, Washington, Oregon, Michigan, New York

Plums and Prunes	Washington, California, Oregon Idaho, Michigan
Cherries	California, Michigan
Small Fruits*	
Strawberries	California, Oregon, Washington, Michigan, Louisiana, Tennessee, Arkansas, New York
Grapes	California, New York, Michigan, Pennsylvania, and Ohio
Cranberries	Massachusetts, Wisconsin, New Jersey
Nuts	
Almonds	California
Pecans	Texas, Georgia and Alabama
Walnuts	California, Oregon

*Included here because nurseries provide the planting stock

Source: 1959 Census of Agriculture, Volume II, General Report

The following are examples of commercial businesses requiring horticulturally trained service employees found in all states. Job opportunities are to be found in most communities of our nation.

Airports
Parks
Golf courses
Apartment buildings
Athletic fields
Residential areas
Shopping centers
Cemeteries

Suggested Teaching - Learning Activities

Provide each student with an outline map of the United States and a mimeographed listing of the major production and employment opportunity areas in the nation. Using the maps and listings as a reference go through the items one by one, making appropriate comments and asking the students to write in the product name in the state or states leading in production of the item under discussion.

From this activity it should become apparent to the students that the production of specific crops varies from state to state. Now the stage has been set to make the following point:

There are such facilities as airports, golf courses, athletic fields, parks, cemeteries, and residential areas in every state of the union. This means that there will be job opportunities in landscape planting and maintenance and, to a lesser degree, in greenhouses regardless of the state in which a person takes up residence. The importance of this point lies in the fact that our labor force can have and does have flexibility.

It is important for the students to realize that the training which they are receiving can be put to use in areas far removed from where the instruction is received. Good work habits as developed in Georgia for example, can be used to an advantage in Illinois, Maine, or any other geographical area.

The students should think of job opportunities in landscape horticulture as being nationwide, as opposed to being centered in any state or group of states.

Suggested Instructional Materials and References

Outline maps of the United States

Mimeographed student handouts giving major horticultural production and job opportunity areas.

Christopher, Introductory Horticulture, pp. 4-14

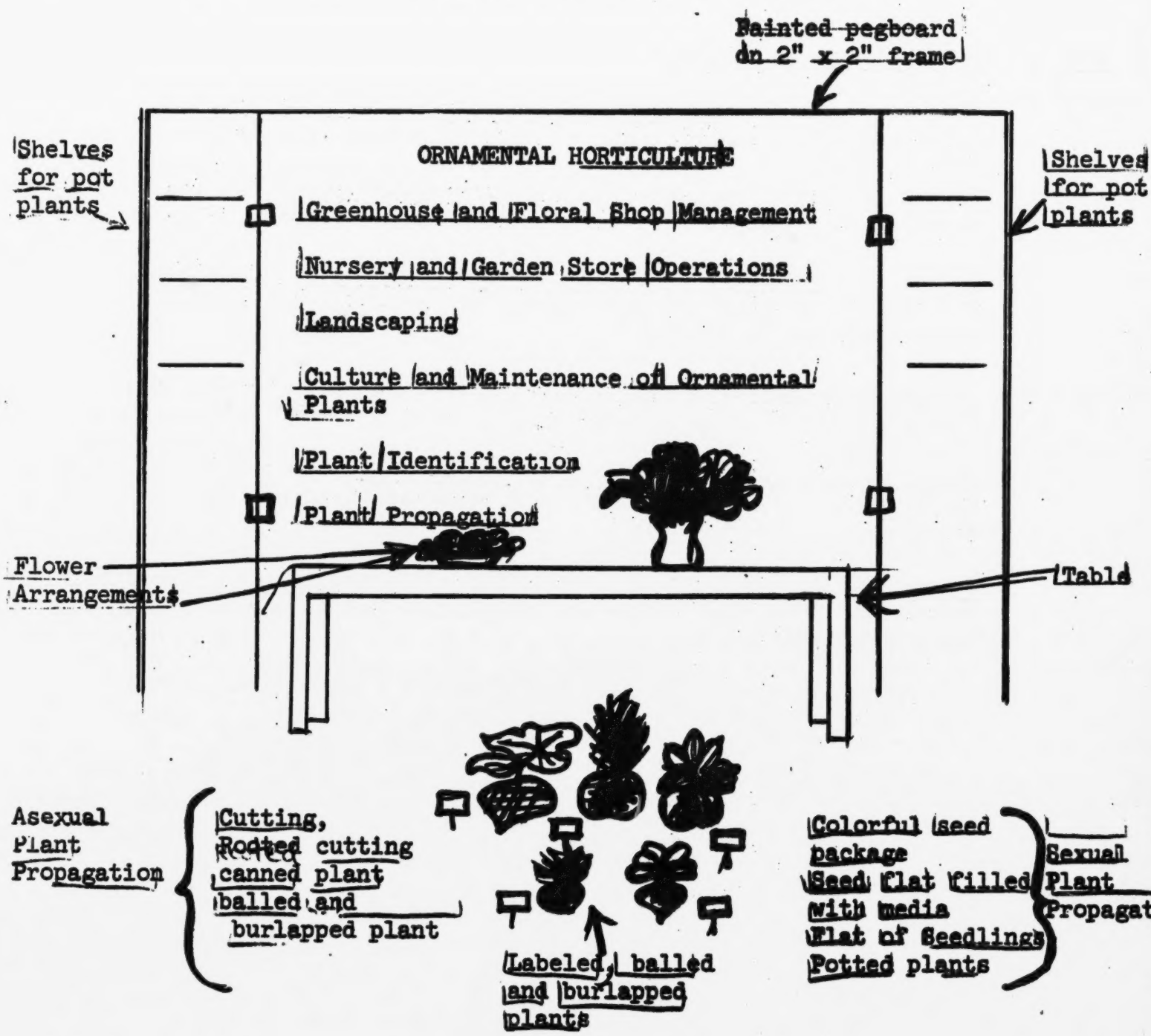
Suggestions for Evaluating Educational Outcomes of the Module

In evaluating the disadvantaged youth for which this module was designed, it seems that written quizzes and examinations requiring reading and comprehension are less appropriate then practical examinations where skills and abilities are actually demonstrated.

A suggestion for evaluating the educational outcome of this unit is to have each student plan a hall or window display which would acquaint the rest of the student body with the opportunities available in either ornamental horticulture or greenhouse work. After the students have a chance to sketch or present their ideas, assemble the class and consider the various suggestions for the display. Consolidate the ideas into an effective theme, gather the necessary materials, and erect the display. After the display has been in place for a few days the class should take down the display and return the materials to their proper places. Each student should have some definite assignment.

This type of activity will provide the teacher with an early opportunity to evaluate each student as to:

1. Creative ability
2. Ability to cooperate with others
3. Initiative
4. Willingness to help
5. Attitude
6. Pride in accomplishments
7. Understanding of job opportunities available



A display board of the type suggested below should be very flexible and could be most useful for:

1. County and state fair exhibits
2. Community fairs
3. School open house displays
4. School hall displays

Sources of Suggested References

1. Hoover, Norman K. Handbook of Agricultural Occupations, Danville: Interstate Printers and Publishers, Inc., 1964

2. Pinney, John J. Beginning in the Nursery Business, Chicago: American Nurserymen, 343 South Dearborn Street, 60604. Price $1.

3. Career Opportunities in Ornamental Horticulture, (a brochure). American Association of Nurserymen, 835 Southern Building, Washington, D. C. 20005

4. Occupational Brief, No. 166, Science Research Associates, Inc., 259 East Erie Street, Chicago 11, Illinois. Priced $.35

5. Opportunities for You in the Florist Industry, Society of American Florists, Sheraton-Park Hotel, Washington 8, D. C. Price $.10

6. Summary of Research Findings in Off-Farm Agricultural Occupations, Columbus, Ohio: The Center For Vocational and Technical Education, 1965. Price $.35

THE CENTER FOR RESEARCH AND LEADERSHIP DEVELOPMENT
IN VOCATIONAL AND TECHNICAL EDUCATION
THE OHIO STATE UNIVERSITY
980 KINNEAR ROAD
COLUMBUS, OHIO, 43212

INSTRUCTOR NOTE: As soon as you have completed teaching each module, please record your reaction on this form and return to the above address.

1. Instructor's Name_____

2. Name of school_____State_____

3. Course outline used: _____Agriculture Supply--Sales and Service Occupations
_____Ornamental Horticulture--Service Occupations
_____Agricultural Machinery--Service Occupations

4. Name of module evaluated in this report_____

5. To what group (age and/or class description) was this material presented?____
_____

6. How many students:
a) Were enrolled in class (total) _____
b) Participated in studying this module _____
c) Participated in a related occupational work experience program while you taught this module _____

7.

Actual time spent teaching module:		Recommended time if you were to teach the module again:
_____hours	Classroom Instruction	_____hours
_____hours	Laboratory Experience	_____hours
_____hours	Occupational Experience (Average time for each student participating)	_____hours
_____hours	Total time	_____hours

(RESPOND TO THE FOLLOWING STATEMENTS WITH A CHECK (√) ALONG THE LINE TO INDICATE YOUR BEST ESTIMATE.)

	VERY APPROPRIATE	NOT APPROPRIATE
8. The suggested time allotments given with this module were:		
9. The suggestions for introducing this module were:		
10. The suggested competencies to be developed were:		
11. For your particular class situation, the level of subject matter content was:		
12. The Suggested Teaching-Learning Activities were:		
13. The Suggested Instructional Materials and References were:		
14. The Suggested Occupational Experiences were:		

(OVER)

15. Was the subject matter content sufficiently detailed to enable you to develop the desired degree of competency in the student? Yes_____No_____
Comments:

16. Was the subject matter content directly related to the type of occupational experience the student received? Yes_____No_____
Comments:

17. List any subject matter items which should be added or deleted:

18. List any additional instructional materials and references which you used or think appropriate:

19. List any additional Teaching-Learning Activities which you feel were particularly successful:

20. List any additional Occupational Work Experiences you used or feel appropriate:

21. What do you see as the major strength of this module?

22. What do you see as the major weakness of this module?

23. Other comments concerning this module:

_____ _____
(Date) (Instructor's Signature)

_____
(School Address)